

AMENDMENTS TO THE CLAIMS

Claim 1 (canceled)

Claim 2 (Previously presented): An improved process for controlling micro-organisms in an aqueous process medium comprising adding a hop acid, characterized in, that the process comprises:

- (a) dissolving the hop acid in an aqueous alkaline medium to form an aqueous alkaline hop acid solution;
- (b) combining the aqueous alkaline hop acid solution with yeast to form a yeast hop acid mixture, and introducing the yeast hop acid mixture into the aqueous process medium; and
- (c) continuously adding an effective amount of the aqueous alkaline hop acid solution, pre fermentation, to the aqueous process medium, wherein the pH of the aqueous alkaline hop acid solution is higher than the pH of the aqueous process medium and wherein the hop acid is in free acid form.

Claim 3 (Previously presented): A process according to claim 2, wherein the aqueous alkaline hop acid solution contains from about 2 to about 40 wt. % of hop acid.

Claim 4 (Previously presented): A process according to claim 2, wherein the pH of the aqueous alkaline hop acid solution ranges from about 7.5 to about 13.0.

Claim 5 (Previously presented): A process according to claim 2, wherein the hop acid is a natural hop acid or derivative thereof; an isomerized hop acid or derivative thereof; or mixtures thereof.

Claim 6 (original): A process according to claim 5, wherein the natural hop acid or derivative thereof is alpha acid, beta acid, tetrahydroalpha acid, hexahydrobeta acid, or mixtures thereof.

Claim 7 (original): A process according to claim 5, wherein the isomerized hop acid or derivative thereof is isoalpha acid, rhoisoalpha acid, hexahydroisoalpha acid, or mixtures thereof.

Claim 8 (Previously presented): A process according to claim 2, wherein the aqueous alkaline medium comprises from about 1 to about 5 wt. % of potassium hydroxide, sodium hydroxide or mixtures of potassium hydroxide and sodium hydroxide.

Claim 9 (Previously presented): A process according to claim 2, wherein the temperature of the aqueous process medium is lower than 100° C.

Claim 10 (Previously presented): A process according to claim 2, wherein the concentrations of the hop acid within the aqueous process medium is in the range of 0.1 - 50 ppm.

Claim 11 (Previously presented): A process according to claim 2, wherein the aqueous process medium is a process medium in a yeast production process.

Claim 12 (Previously presented): A process according to claim 2, wherein the aqueous alkaline hop acid solution is prepared according to the following process:

- a. heating an aqueous medium;
- b. adding a hop acid to the heated aqueous medium wherein the final concentration of the hop acid is within a predefined range of concentration;
- c. adding an alkaline medium to obtain a pre-defined pH;
- d. mixing the alkaline medium with the hop acid aqueous medium;
- e. keeping the mixture in a raised temperature range within a pre-defined time period;
- f. separating the solution of hop acid from the mixture; and
- g. cooling the solution of hop acid to a temperature below about 20° C.

Claim 13 (Previously presented): A process according to claim 12, wherein the aqueous alkaline hop acid solution is cooled to a temperature below 10° C.

Claim 14 (Previously presented): An improved process for controlling the bacterial growth in a distillery comprising a yeast growing tank and a fermentor tank containing a fermentable solution, the improvement comprising adding to the yeast and fermentor streams of the distillery prior to entering the fermentor and yeast growing tank, an effective antibacterial amount of an isomerized hop acid or derivative thereof.

Claim 15 (original): A process according to claim 14 wherein, the isomerized hop acid or derivative thereof is isoalpha acid, rhoisoalpha acid, tetrahydroisoalpha acid, hexahydroisoalpha acid, or mixtures thereof.

Claim 16 (original): A process according to claim 14 wherein, the fermentable solution is stored as a concentrate and the isomerized hop acid is dosed into the yeast or fermentor feed streams immediately after dilution as an aqueous solution.

Claim 17 (original): A process according to claim 16 wherein, the pH of the aqueous solution comprising the isomerized hop acid is greater than the pH of the yeast or fermentor streams.

Claim 18 (Previously presented): A process according to claim 14 wherein, the concentration of isomerized hop acid or derivative thereof in the yeast and fermentor streams ranges from about 1 to about 20 ppm.

Claim 19 (Previously presented): A process according to claim 14 wherein, the concentration of isomerized hop acid or derivative thereof in the yeast and fermentor streams ranges from about 2 to about 4 ppm.

Claim 20 (Previously presented) A process according to claim 14, wherein the addition occurs at a temperature of less than about 30° C.

Claim 21 (Previously presented): A process according to claim 2, wherein the temperature of the aqueous process medium is lower than 30° C.